

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/064841 A1

(51) International Patent Classification⁷: **H04L 1/20**

(21) International Application Number:
PCT/EP2003/014983

(22) International Filing Date:
30 December 2003 (30.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **TELEFONAKTIEBOLAGET LM ERICSSON (publ)**
[SE/SE]; S-164 83 Stockholm (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MOELKER, Dignus-Jan** [NL/NL]; Dragonweg 23, NL-2215 BN Voorhout (NL).

(74) Agents: **DOHMEN, Johannes, M., G.** et al.; Algemeen Octrooi- en Merkenbureau, P.O. Box 645, NL-5600 AP Eindhoven (NL).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

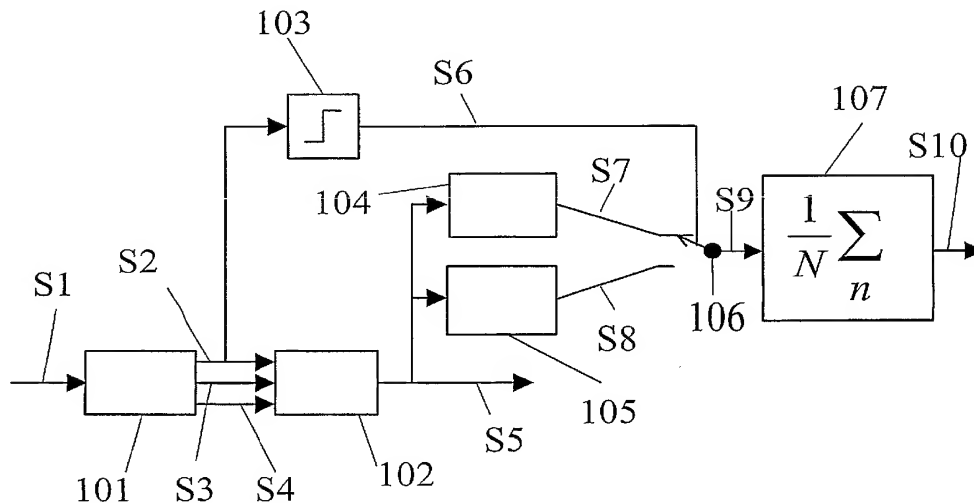
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND DEVICE FOR CALCULATING THE BIT ERROR RATE OF RECEIVED SIGNAL



(57) Abstract: System and method of estimating radio channel bit error rate (BER) in a digital radio telecommunications system wherein the soft output of the turbo decoder is used as pointer or index to look-up-tables containing the bit-wise BER of a certain bit in the data field of the received frame. A quantizer quantizes the received data frame and the quantized bit operates on a switch which selects the appropriate look-up-table. By means of accumulation and scaling the average BER of a certain amount of bits are calculated. Decoding bit-errors may occur but as they are submitted to posterior probability estimation, systematic errors which normally happen at low SNR are avoided.

WO 2005/064841 A1